

English. Thus we have sometimes two or three tolerably correct consecutive Spanish sentences with due observance of its grammatical forms, as, for instance, Pues, tome ! Uno, dos, tres, quatro. Ha ! mi plata, muchachos ! Cuatro cientos y tantos pesos le he dado á mi amigo Capⁿ Alguacil. But beyond abrupt exclamations such as "*Mascamayagna, Güegüence*" = "at your service, Güegüence," complete grammatical Aztec sentences never occur, and the composition may on the whole be regarded as essentially Spanish copiously interlarded with native words and phrases. Hence it is rather a medley than a true *lingua franca*, or a jargon, such as "Pigeon-English," and the Chinook of the Columbia river, which involve a total destruction of the relational forms of all the constituent elements, thus preparing the way for a fresh grammatical departure. Thus only is it conceivable that true mixed languages can be developed, and the conditions favourable for such combinations are necessarily so exceptional that they must in any case always remain the rarest of linguistic phenomena.

Little space is left to speak of the last "Reports of the Peabody Museum," which are more than usually rich in original ethnological materials. Conspicuous amongst these are the graphic descriptions at first hand of the "White Buffalo Festival of the Unepapas," the "Elk Mystery or Festival of the Ogallala Sioux," the "Religious Ceremony of the Four Winds as observed by the Santee Sioux," the "Shadow or Ghost Lodge : a Ceremony of the Ogallala Sioux," and the "Wa-Wan or Pipe Dance of the Omahas," all by Miss Alice C. Fletcher, who has recently been spending some profitable time in the midst of these North American tribes. By taking up her residence amongst them, sharing in their domestic joys and sorrows, making herself one of them, this enterprising and benevolent lady has enjoyed rare opportunities of penetrating into the inner life of the aborigines. Hence the great value of her remarks, especially on their religious views, a correct appreciation of which can only be had in this way. On the vexed subject of nature-worship and animism some current misconceptions are combated and fresh light thrown on the attitude of the native mind towards the outward and invisible world. "Careful inquiry and observation," she writes, "fail to show that the Indian actually worships the objects which are set up or mentioned by him in his ceremonies. The earth, the four winds, the sun, moon, and stars, the stones, the water, the various animals, are all exponents of a mysterious life and power encompassing the Indian, and filling him with vague apprehension and desire to propitiate and induce to friendly relations. This is attempted not so much through the ideas of sacrifice as through more or less ceremonial appeals. More faith is put in ritual and a careful observance of forms than in any act of self-denial in its moral sense as we understand it. . . . To the Indian mind the life of the universe has not been analysed, classified, and a great synthesis formed of the parts. To him the varied forms are all equally important and noble. A devout old Indian said : "The tree is like a human being, for it has life and grows ; so we pray to it and put our offerings on it that the god may help us." Here we have placed in a vivid light the very essence of Anthropomorphism—ultimate base and starting-point of all primitive religions.

In the Curator's Report reference is made to the imprints of human feet discovered by Dr. Flint on December 24, 1883, in the volcanic rock some fourteen feet below the surface soil in Nicaragua. The tracks are in several series running nearly parallel with the banks of Lake Managua, within 300 feet of the present margin. Above the prints is a bed of clay and volcanic material containing fossil leaves, and over this four distinct beds of more recent volcanic matter. Blocks of rock containing the prints have been cut away and forwarded to the Museum. "That they were made by the feet of men

while the material of which the rock is formed was in a plastic condition there is not the least doubt. The imprints are from nine to ten inches long and about four wide across the ball of the foot . . . with heel-ball and toes perfectly distinct. Dr. Flint states that the stride was only from eleven to eighteen inches, which indicates slow walking over the plastic substance." It is hoped that a clue to the geological age of the deposit may be obtained from the fossil leaves, a report on which is expected from Prof. Lesquereux. A. H. KEANE

NOTES

THE International Conference on Education was opened at the Health Exhibition on Monday by the address of Lord Carlingford, and has been continued during the week. There is a very large attendance both of English and foreign educationists, while the papers and discussions have been of much interest and importance. We hope to speak in detail of the Conference in our next number.

THE summer meeting of the Institution of Mechanical Engineers began at Cardiff on Tuesday with the address of the president, I. Lowthian Bell, F.R.S. The papers to be read are all of a technical nature. The meeting will be continued during the week, and many excursions have been organised, and visits to engineering and other works.

THE French Association for the Advancement of Science will hold its next meeting at Blois from September 4 to 11 next. The lecturers and subjects of lectures have not yet been decided upon.

DR. SCHWEINFURTH will return to Africa in a few weeks, on a commission from the Berlin Academy of Sciences ; but the field of his exploratory labours has not yet been finally selected.

THE Government having decided to appoint a Royal Commission for the Exhibition of India and the Colonies, which is to be held in London in 1886, the Prince of Wales has issued a certain number of invitations to those persons whom it is desired should serve on this Commission.

THE death is announced of Mr. Charles Manby, F.R.S., M.Inst.C.E., for forty-five years identified with the Institution of Civil Engineers, for seventeen as the paid secretary, and for twenty-eight years as the honorary secretary. He was born on February 4, 1804, and was the eldest son of Aaron Manby, the founder of the Horseley Iron Works in Staffordshire, and later of the Paris Gas Works, and of ironworks at Charenton, near Paris, and who re-organised the now famous ironworks at Creuzot. For his father he was also engaged on the design and construction of the first pair of marine engines with oscillating cylinders, upon the building of the *Aaron Manby*, the first iron steamship that ever made a sea voyage, and upon the several works in France before enumerated. In 1839 he was appointed secretary of the Institution of Civil Engineers, and soon afterwards threw himself, heart and soul, into a movement which revolutionised the Society. As evidence of the appreciation in which he was held it may be mentioned that when, in 1856, he relinquished the position—which has since been filled by his pupil, James Forrest—he was presented with a service of plate and a sum of two thousand guineas, "as a token of personal esteem, and in recognition of the valuable services he had rendered to the members individually and collectively." Again, in 1876, Charles Manby received from the members of the Institute of Civil Engineers a silver salver and a purse of upwards of 4000*l.* "in friendly remembrance of many years valuable services."

On Monday, August 4, taking advantage of Bank Holiday, the Essex Field Club held a meeting at Colchester. The party,

about fifty or sixty in number, were met at the station by Mr. J. Horace Round, who conducted them through the older parts of the town to the Castle, the history of which was lucidly sketched and the main points of interest shown by Mr. Round. A hurried visit to the Castle Museum, with its splendid collection of local antiquities and natural history objects, was next made under the guidance of the Rev. C. L. Acland and Mr. Round. The party then proceeding to lunch at the Cups Hotel. After lunch, a drive of about eight miles along the Mersea Road, passing through the villages of Abberton and Peldon, the scenes of the earthquake of April 22, brought the party to West Mersea, where Mr. H. Lauer addressed them upon the history of this and the surrounding districts during Roman times, suggesting that the Roman town of Othona may have been situated on the opposite shore of the River Blackwater in the neighbourhood of Bradwell. Mr. Lauer next called attention to the interesting and mysterious "salting-mounds" or "red hills," which occur also on the Norfolk coast and along the rivers in Suffolk and Kent, and of which eighteen still exist between Strood and Virley in Essex. These, according to Mr. H. Stopes, F.G.S., often cover as much as 10 to 30 acres, and are from 2 to 4½ feet deep, being composed of red burnt clay mixed with rude broken pottery, charcoal, ashes, and often bones. A ramble eastward along the coast of Mersea Island brought the party to the "decoy" for the capture of wild-fowl, the working of which in former times was explained by Mr. Lauer. Here Mr. J. C. Shenstone gave a short demonstration of the interesting coast flora. Driving homewards the party stopped at the ruins of Langenhoe Church, wrecked by the earthquake, where Mr. R. Meldola gave a short statement on this subject in anticipation of the detailed report which he proposes to present to the Club. He stated that the area of structural damage covered about fifty square miles. After tea an ordinary meeting was held, Mr. R. Meldola in the chair, and the evening concluded with a *conversazione* at the Hotel, collections of insects, dried plants, and living insectivorous plants being exhibited by Mr. W. H. Harwood, Mr. Shenstone, and Dr. Alexander Wallace. The Mayor and many of the townspeople were present during the evening to listen to the short addresses on natural history subjects given in explanation of the various exhibits.

THE repeated failures of steamers to reach Siberia from Europe do not seem to have deterred M. Sibiriakoff, the well-known Russian merchant, from again despatching two steamers this year. Early last month the steamers *Nordenskjöld* and *Obi* left Tromsø (Norway) to attempt, it is stated, for the last time to reach Siberia. When in lat. 70° 55' N. and long. 52° 15' E. the engines of the *Nordenskjöld* broke down, and she was with great difficulty towed back to Vardö.

A SUBSCRIPTION has been opened at St. Petersburg, in order to raise the money for instituting at the University five bursaries in the name of Charles Darwin, to be employed for the maintenance of five students in the five chief branches of natural science.

THE Russian review, *Russkaya Starina*, and the *Journal* of the Russian Chemical and Physical Society have lately devoted some attention to the first steam-engine that was made in the Russian Empire, in 1763, at the ironworks of Barnaoul, in Western Siberia, by a mining engineer, Polzunoff. It appears from M. Woyekoff's description of this steam-engine, the model of which exists still at Barnaoul (both reviews have figured it on plates), that Polzunoff's engine was a reproduction of the "fire-engine" of Newcomen, with some original improvements. Thus it has two cylinders, instead of one, and, instead of the beam, Polzunoff made use of a wheel which received the chains of the pistons, and transmitted the circular movement, transformed again into a rectilinear one, to a pair of bellows, used for

blowing air into a high furnace. The distribution of vapour was automatic, as in Newcomen's engine, but with several improvements. The engine, which had cylinders 9 feet long and 9 inches in diameter, worked during two months from May 20, 1766, and 3100 cwt. of silver ore, yielding 5 cwt. of silver, were melted with its help. But Polzunoff did not see his engine at work, as he died from consumption four days before. He obviously was a remarkable man for his time, several of the physical remarks he made in the description of his engine showing not only a wide knowledge, but also a serious spirit of true physical reasoning, together with a notable skill for determining the limits of knowledge of that time. In his theoretical remarks about "Air, Water, and Vapour," he notices also that physicists are not yet agreed as to the origin of heat, some of them seeing in it a much-divided, fine moving matter, while others "see the origin of heat in friction and in the vibratory motion of the particles inaccessible to our senses, of which the bodies are constituted." He obviously quotes here the words of Lomonosoff, who stated in these very words the mechanical origin of heat in his most remarkable but unhappily little-known memoir, written as an instruction to Tchitchagoff's Polar Expedition.

SEVERAL severe shocks of earthquake were felt on Sunday afternoon at Foca, in Bosnia. The duration of each shock was over two seconds.

A BROCHURE just issued by M. Ch. Montigny at Brussels contains in convenient form the result of his studies on the state of the atmosphere as affecting stellar scintillation, with a view to forecasting the state of the weather. From the fact determined by W. Spring, that the colour of pure water in great bulk is blue, he explains the predominance of this colour in the scintillation of the stars just before and during wet weather. The luminous rays, he argues, traversing the air charged with large quantities of pure water are necessarily tinged with the blue colour of this medium. The excess of blue thus becomes an almost certain means of predicting rain. This theoretic conclusion corresponds with the results of his observations continued for several years past on the appearance of the stellar rays in connection with the state of the weather. During the few months of fine weather in the present year blue has been much less conspicuous than in the corresponding months of previous years since 1876, when wet weather prevailed. It also appears that green, which had always coincided with clear skies during the fine years before 1876, has recently again become predominant. Hence he thinks it probable that we have got over the cycle of bad seasons, and that dry weather and more normal summers may be anticipated at least for some time to come.

PROF. F. NEESEN publishes a reprint of his paper in the *Archiv für Artillerie- und Ingenieur-Offiziere* for 1884 on a generalisation of Sebert's method of registering the velocity of shot within the tube of a gun. Sebert's apparatus necessarily registers for a space somewhat shorter than the diameter of the ball. This defect is remedied and the registration extended to the whole length of the tube by means of a revolving appliance to which the registering tuning-fork is attached, and disposed parallel with the periphery of the cross-section of the shot. Pencils fastened to the prongs of the tuning-fork and vibrating with it are thus made to describe curves indicating the velocity of the ball in its course through the tube. The only objection to the process, which is made perfectly clear by several accompanying illustrations, is that by the concussion the registering apparatus may get deranged or jammed with the shot. This danger it is proposed to obviate by making the apparatus of the best steel, and diminishing the effect of the concussion by filling the shot with some fluid when fired for experimental purposes.

IN the last number of the *Bollettino* of the Italian Geographical Society, Dr. G. A. Colini continues his valuable

paper, already noticed in NATURE, on the Indians of the Upper Amazon regions. Much original and curious information is supplied regarding the Caribos, Shipivos, Amahuacs, Campas, Shetevos, and many other Christian and Pagan tribes, especially of the Ucayali and Huallaga basins. Thus we are told that most of the Christian women in the Ucayali villages don a European smock to attend mass, but after the service lay it aside for the native *pampanilla*, a scanty garment, white at first, but afterwards dyed blue or red with geometrical designs to save the trouble of washing it. Here also the men carefully pluck out the beard with pincers made of two shells, because the women consider this appendage as a sign of old age. Hence bearded youths are regarded as superannuated, while clean-faced old men are still eligible in the matrimonial market. The South American Indians are usually described as altogether beardless, an inference due probably to this custom, which appears to be very general.

THE principal articles in the current number of *Petermann's Mittheilungen* are on Arctic subjects. Prof. Mohn of the Norwegian Meteorological Institute writes on the hydrography of the Siberian Arctic from the observations of the *Vega*, while Lieut. Hovgaard, a member of the expedition, contributes a paper on the ice in the Kara Sea, and M. Lauriasen of Copenhagen on the point reached by Behring in his first expedition. In addition to these we have papers on the names of places in the Niger region, on the new map of Germany prepared by the general staff, and the usual notes.

THE plague of rabbits in our Australasian colonies is one of which much has been heard, and it appears that another European animal, the dog, is about to follow the example of the rabbit, and make himself a pest in place of a pet. It appears that the number of wild or semi-wild dogs has recently increased largely in Victoria and New South Wales, and the consequence is a great slaughter of sheep by these nomads. The Government has already offered rewards for their destruction. In New Zealand some enterprising people have hit on the idea of importing weasels and stoats from England to keep down the rabbits; but if the former increase in their new habitat as rapidly as the latter have done, the last state of New Zealand will be worse than the first, for a plague of rabbits must be as nothing compared to a plague of weasels, and a great increase of the latter, from their predatory and destructive habits, must be followed by a considerable alteration in the distribution of the fauna of New Zealand. In Jamaica, according to the last report of the Director of Public Gardens in that colony, the planters suffered greatly from the depredations of rats among the sugar-canes. The rat-eaten canes were good for nothing except rum, and accordingly large sums were spent in poison and dogs to keep down the rats, but apparently without much success. At last an enterprising planter determined to import the mongoose from India to destroy the rats on his sugar estate. The sugar-planters, Mr. Morris says, have unquestionably benefited greatly by its introduction, and rat-eaten canes are now hardly known where formerly they were found in large quantities. But the new importation continues to multiply and spread, not only on sugar estates, but on the highest mountains, as well as along shore, even amidst swamps and lagoons; and when the sugar-cane rat is wholly exterminated, the mongoose will still go on increasing, and what then? Must the colonists find something else to exterminate the mongoose, and save their poultry, and so on *ad infinitum*? As it is, negro settlers and persons not connected with sugar estates complain of its ravages amongst their poultry and even accuse it of destroying fruit and vegetables; and, although Mr. Morris doubts whether these complaints are all well founded, he acknowledges that the mongoose is the cause of great disturbance in the animal life of Jamaica. Harm-

less yellow and other snakes, lizards, ground-hatching birds, rabbits, and many members of the indigenous fauna of the island are likely to become extinct at no distant date. It will be interesting to watch the effect of the introduction of the mongoose, and we hope Mr. Morris will enlighten us from year to year on the subject.

AT the last meeting of the Asiatic Society of Japan (as reported in the *Japan Weekly Mail*) a paper was read by Dr. Whitney on "Medical Progress in Japan." The first era in Japanese medicine was the mythological age, when the treatment of disease appears to have consisted in the use of charms and the employment of the simplest remedies originated by the "Great-name-possessing Deity"; the next period covers nearly 900 years from the middle of the second century B.C., during which Korean and Chinese medicine was introduced, as well as Buddhism and the useful arts. At the close of the eighth century the University and a medical school were established, and here commences the third period in the history of Japanese medical progress, which lasts down to the middle of the sixteenth century. In the medical college of those days the students pursued a seven years' course, and appear to have received a thorough and systematic training in Chinese medicine, which, as then taught, was embodied in works consisting chiefly in numerous dissertations and philosophical deductions based upon incorrect notions as to the anatomy of the human frame and the relation of its various viscera with one another and with the different phenomena of nature. In the fourth period, from the middle of the sixteenth century, when the Portuguese first appeared in Japan, down to the restoration of 1867, occurred the revival of both the Japanese and Chinese schools, and the introduction of Western medicine, which appears to have played no unimportant part in the temporary success of the missionaries. They received at one time a grant of 7500 acres of public lands for the purpose of cultivating medicinal plants. In 1775 was published the translation into Japanese of a Dutch work on anatomy, which was the first of its kind published in Japanese. Vaccination was introduced in 1824 from Russia by some Japanese fishermen, and in 1858 a medical school was founded in Nayaski, in which Western medicine only was taught. With the effects of the revolution of 1868 on medicine, as on most other things in Japan, most people are familiar. The physicians and surgeons of new Japan are required to go through a three years' course of study, and to pass examinations in the manner familiar in Europe. Apothecaries, dentists, and midwives must similarly be provided with diplomas, which can only be obtained after satisfactory examination. Contagious diseases acts, the examination of drugs, a strict control of the sale of opium for medicinal purposes, and the numerous other measures by which governments seek to protect the public health, are now found in full working order in Japan.

DR. R. LENZ describes, in the last *Bulletin* of the St. Petersburg Academy of Sciences, a new application of the telephone to the measurement of temperatures at a distance. Let us imagine two stations, A and B, connected together by an iron and an argentan wire, which are looped together at both stations. If the looping at A has a different temperature to that of B, a thermal current will circulate through the wires; and if a silent interrupter and a telephone be introduced into the system, the telephone will emit a sound, which will cease immediately the observer at B has raised or lowered the temperature of his looping place, so as to render it equal to that of A, and to destroy thus the thermal current. The exactness of this method depends on the exactness of determination of the moment when the lull ceases in the telephone, which moment is influenced by a remnant of lull in the instrument after the equalisation of temperature at both ends of the apparatus. In a series of experiments where the points A and B were one metre distant, Dr. Lenz

determined temperatures by this method with great accuracy, the errors being only from 0°01 to 0°17; and he concludes that, by using iron-argentan wires two millimetres thick, the measurements could be made at a distance of five kilometres, which distance could be still increased, say to twenty-five kilometres, if antimony and bismuth wires were used.

THE last number (12) of the *Journal* of the Straits Branch of the Royal Asiatic Society has the continuation of a paper on Malayan Ornithology, by Capt. Kelham, and an official report by Mr. L. Wray, of Perak, on gutta-producing trees. Mr. Maxwell writes on "Shamanism in Perak," the term in this instance being applied to the incantations and ceremonies employed by the Malays to cure the sick. But surely Shamanism in its home in Thibet is something more than this. Mr. Ferguson contributes some notes on the curious changes which consonants undergo in passing from one Malay dialect to another. The papers, properly so called, conclude with a report on the Meteorology of the Straits. In the Annual Report of the Council of the Society we notice that it is intended to republish in a collected form valuable papers published in the Eastern Archipelago at one time or another, but now either out of print or difficult of access; also a text-book of the geography of the region, under the editorship of members of the Society, and a skeleton map of the Malay Peninsula, on a scale of a quarter of an inch to a mile, upon which all new information will be entered from time to time as exploration advances.

SEVERAL honorary promotions have been recently made by the French Government for scientific services. Dr. Cornelius Herz, director of *La Lumière Electrique*, has been nominated Commander in the Legion d'Honneur at the request of M. Cochery, Minister of Postal Telegraphy, for his works on Electricity. The Minister of Public Instruction has appointed Madame Camille Flammarion an officer of the Academy for having acted as a secretary to her husband in all his work in connection with astronomy. The Municipal Council of Paris has decided that one of the new streets of the Thirteenth Arrondissement shall be named Giffard, in commemoration of the inventor of the injector.

AN experiment has been made in Vienna which proves that even with incandescent lights special precautions must be taken to avoid any risk of fire. A lamp having been enveloped with paper and lighted by a current, the heat generated was sufficient to set fire to the paper, which burnt out and caused the lamp to explode.

ON July 27 there was celebrated at the Trocadéro Palace the centenary of the death of Diderot, the celebrated French philosopher, who was also a man of science in his time and editor of the famous *Encyclopædia*.

THE additions to the Zoological Society's Gardens during the past week include a Rhesus Monkey (*Macacus rhesus* ♀) from India, presented by Miss A. E. Sturge; a Bonnet Monkey (*Macacus sinicus* ♂) from India, presented by the Rev. T. Rickards; a Common Fox (*Canis vulpes*), British, presented by Mr. Thomas Legg; a King Vulture (*Gypagus papa*) from South America, presented by Mr. August Strunz; two Red-tailed Buzzards (*Buteo borealis*) from Jamaica, presented by Mr. D. Morris; a Martinique Waterhen (*Ionornis martinicus*), captured at sea, presented by Mr. A. Jones; two Jackdaws (*Corvus monedula*), British, presented by Mrs. Frank; a Kestrel (*Tinnunculus alaudarius*), British, presented by Mr. G. Westrup; a Crested Curassow (*Crax alector*), an Anaconda (*Eunectes murinus*) from British Guiana, presented by Mr. G. H. Hawtayne, C.M.Z.S.; a Grey Amphibæna (*Blanus cinereus*) from Portugal, presented by Mr. W. C. Tait, C.M.Z.S.; a Golden-crowned Conure (*Conurus aureus*) from South-East Brazil, deposited; a Black

Hornbill (*Sphagolobus atratus*) from West Africa, purchased; a three-quarter bred Mesopotamian Deer (between *Dama mesopotamica* ♂ and hybrid *Dama vulgaris*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

THE NEW COMET.—A circular issued from Dun Echt on July 31, contains the following approximate elements of the comet discovered by Mr. Barnard on July 16, calculated by Mr. S. C. Chandler of Harvard College Observatory:—

Perihelion passage, 1884, August 17'63 G.M.T.

Longitude of perihelion	...	...	...	302° 4'
ascending node	...	...	...	357° 52'
Inclination	...	...	...	7° 2'
Logarithm of perihelion distance	...	...	...	0.14780
Motion—direct.				

The comet will probably be observable in this country after perihelion passage, as will appear from the subjoined positions resulting from Mr. Chandler's orbit:—

12h. G.M.T.		R.A.		N.P.D.		Distance from Earth	Intensity of Light
	h.	m.		°			
September 3	...	18 27.2	...	123° 8'	...	0.682	1.06
" 7	...	18 44.2	...	122° 6'	...	0.701	0.98
" 11	...	19 0.2	...	120° 58'	...	0.722	0.91
" 15	...	19 15.9	...	119° 46'	...	0.747	0.83

At discovery on July 16 its distance from the earth was 0.627, and that from the sun 1.480, consequently the intensity of light was 1.16.

The supposition that this comet had been observed at Melbourne, Madras, and the Cape, arose from a mistake in graphing. M. Trepied (Algiers) calls it "nébulosité sans queue; condensation centrale."

PERIODICAL COMETS IN 1885.—During next year three comets of short period will return to perihelion. Encke's comet is due in March, probably in the first or second week, according to the elements of 1881. The next is Tempel's comet, 1867 II., in the case of which it is not possible to assign the time of perihelion passage without the calculation of the perturbations due to the attraction of Jupiter, near which planet the comet was situated during the last half of the year 1881; the least distance of the two bodies having been about 0.57 in October. The third comet referred to is Tuttle's, last observed in 1871, the perihelion passage probably in September or October.

A VARIABLE-STAR IN AQUARIUS.—Attention has been already directed in this column to a star, the position of which for 1884.0 is in R.A. 22h. 29m. 48s., N.P.D. 98° 12' 4", on the score of variability from the ninth magnitude to invisibility, or at least to below the twelfth magnitude. Mr. Knott has just made an observation which confirms the variation of the star, as notified by Mr. Hind some thirty years since. On August 1, by the method of gauging, Mr. Knott found its magnitude 11.7. It was 9m. according to the Markree Zones on October 27, 1848, and on four occasions was estimated 9.5 at Bonn. It was considered a ninth magnitude, probably in August 1855, at the late Mr. Bishop's observatory. Generally it seems to have been about 11.5m. There is some reason for supposing that it does not continue very long at maximum. Argelander was inclined to think that there was a mistake as to the variability of this star, but the evidence in favour of it appears now to be too strong to be thus set aside. It has not been included in Schönfeld's catalogues of known or suspected variables.

PTOLEMY'S 30TH OF CENTAURUS.—In Süfi's "Description of the Stars," according to Schjellerup, we read: "Ptolemy has reported that there are in this constellation (Centaurus) thirty-seven stars, but in reality there are only thirty-six, the thirtieth is wanting." The star is No. 964 of Baily's edition of Ptolemy's Catalogue, and is rated γ, the twenty-ninth star immediately preceding (ε Centauri) being called β. From Ptolemy's longitudes and latitudes we find that the thirtieth star followed the twenty-ninth 0° 34' in R.A. and 1° 10' to the south of it. Q Centauri follows ε 26' 5", and is south 1° 5' 7"; it is estimated 5.7 m. in Gould's *Uranometria*, but is a double-star, the components 6½ and 7½. Notwithstanding the difference in brightness, the approximate agreement of positions seems to point to Q Centauri as Ptolemy's thirtieth star.